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SECTOR 5 — CHART INFORMATION

SECTOR 5

SODRA KVARKEN AND THE ADJACENT SWEDISH COAST

Plan.—This sector describes a portion of the E coast of Sweden between Arholma and Lovstabukten, with its limits on the Åland Sea; and Sodra Kvarken, the main passage leading N from the Åland Sea into the Gulf of Bothnia. The descriptive sequence is N and NW from Arholma.

General Remarks

5.1 Tides—Currents.—Discharge from the rivers and the general counterclockwise water circulation in the Baltic Sea cause what the Swedes refer to as the "net current" through the Stockholm archipelago. The "net current" is very weak, about 0.2 knot, and is easily allowed for. However, currents caused by weather and winds, particularly in narrow passages such as Sodra Kvarken, may reach a velocity of several knots.

Pilotage.—Pilotage is compulsory in Swedish coastal waters and along certain fairways connecting ports along the coast. The vessels subject to compulsory pilotage vary in type and size according to location; these vessels are divided into the following categories:

1. Category 1—Vessels carrying or with uncleaned tanks which last carried:
 - (i) liquefied gas.
 - (ii) liquid chemicals defined in MARPOL '73 Supplement 2, Annex 2 as category A, B, or (if vessel does not have a double-skin hull under all cargo tanks) C.
 - (iii) liquid chemicals which, according to the IMO bulk chemical code, should be carried in Type 1 or 2 vessels.

2. Category 2—All other chemical tankers which are laden or have uncleaned tanks and all laden oil tankers.

3. Category 3—All other vessels.

Generally, pilots must be requested at least 5 hours in advance stating when and the area where pilotage is required. Any amendments should be sent at least 3 hours before the requested time. If continuous pilotage is required on voyages exceeding 12 hours, this must be reported when ordering.

Deep-sea pilots and pilotage service required outside of normal operating hours should be ordered at least 24 hours in advance. Vessels should establish VHF radio contact with the pilot station before arrival.

Application for pilotage exemption certificates for certain fairways may be made to the pilotage authority in the area concerned. Exemption certificates may be held for a period of two years for certain pilotage areas and channels.

The main pilot station along this part of the coast is situated at Svartklubben. Pilots can be contacted by VHF and board vessels about 2 miles SE of Svartklubben Light (60°11'N., 18°50'E.).

The Svartklubben pilotage area lies between a line extending E from Rodhall (60°36.0'N., 17°59.5'E.) and latitude 59°50'N.

Pilotage is compulsory, as follows:

1. All Category 1 vessels.
2. Category 2 vessels of over 80m length or 15m beam.
3. Category 3 vessels of over 90m length or 16m beam.

In certain pilot channels between Svartklubben and Hallstavik, pilotage is compulsory, as follows:

1. All Category 1 vessels.
2. Category 2 and 3 vessels of over 80m length, 15m beam, and 5m draft.

In certain pilot channels between Svartklubben and Forsmark, pilotage is compulsory, as follows:

1. All Category 1 vessels.
2. Category 2 and 3 vessels of over 80m length, 15m beam, and 4.5m draft.

All ordering of pilots from the station at Svartklubben must be carried out through VTS Stockholm.

See Pub. 194, Sailing Directions (Enroute) Baltic Sea (Southern Part) for information concerning VTS Stockholm.

Regulations.—Channels leading through and into the Stockholm archipelago (Stockholms Skargård) are subject to a mandatory Vessel Traffic Service (VTS) system. The information centers will pass navigational and traffic details as required. Reporting is mandatory for vessels over 300 grt or over 50m in length, as well as vessels under tow that have a combined length of over 50m.

See Pub. 194, Sailing Directions (Enroute) Baltic Sea (Southern Part) for information concerning VTS Stockholm.

The Swedish authorities have instituted a system of restricted areas and semi-restricted areas throughout the coastal waters. The limits of these areas may best be seen on the chart. Vessels are generally permitted to transit these areas only through the approved channels, and with a pilot aboard. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Directions.—From the vicinity of Flotjan Light (59°49'N., 19°47'E.) (see [paragraph 4.5](#)), the main offshore route continues in a NW direction through the center of the Åland Sea. It then turns N and passes through Sodra Kvarken.

Caution.—When proceeding through the Åland Sea and Sodra Kvarken, the Swedish coast and its fringing islands will be observed to be comparatively high, in contrast to the low Finnish coast. With the Swedish side being steep-to, it may tend to appear closer than the low Finnish side. Vessels should take care in ascertaining their position before altering course toward the Finnish side of the gulf. The Stockholm archipelago area has few distinguishing landmarks.

Special marks and buoys are occasionally placed temporarily on and off the Swedish coast, during the summer season, for the purpose of making surveys. Vessels are warned not to mistake these special marks for the navigational aids.

Fishing for herring during the autumn months is carried out around the shoals lying N of Orskar, in the approaches to Gavlebukten, and on Finnegrunden. Vessels may encounter heavy concentrations of fishing gear in these areas.

Several submarine cables extend across the Ålands Sea and may best be seen on the chart.

During the winter, many buoys in these waters are removed while others may be damaged or break adrift.

In the coastal waters within this sector, numerous logs may be found adrift at all times of the year.

Areas dangerous due to mines laid during World War II exist within the waters described in this sector. There is still a risk of danger in these areas when anchoring or carrying out any seabed activities.

Arholma to Sodra Kvarken

5.2 Arholma (59°50'N., 19°07'E.), an island, lies off the E coast of Sweden, about 20 miles W of Flotjan Light (59°49'N., 19°47'E.). The coast between this island and Grisslehamn, 17 miles NNW, is heavily wooded and fronted by Bjorko and Vaddo. A prominent beacon tower, 16m high, stands on the W and tallest part of Arholma.

Stockholms Skargard is an area, consisting of numerous islands, islets, rocks, and shoals, which lies S of Arholma. It extends, in places, up to 30 miles seaward of the mainland coast.

The Arholma entrance to Stockholm Skargard is authorized for vessels with drafts up to 7m. The main channel from seaward leads SSE and passes close W of Simpnasklubb Light.

Stockholms Skargard and the channels passing through it are described in Pub. 194, Sailing Directions (Enroute) Baltic Sea (Southern Part).

Simpnasklubb Light (59°54'N., 19°05'E.), equipped with a racon, is shown from a prominent floodlit tower, 16m high, standing on a rock 2.4 miles NW of the N extremity of Arholma.

Norrbadan, a rock awash, lies about 0.4 mile ENE of the light. This rock forms the outermost danger in this vicinity and is marked by a buoy.

Vaddo Kasberg, located on the S part of Vaddo, is 50m high and bare on the S side of its summit. This hill is therefore conspicuous along the otherwise wooded section of coastline. A conspicuous television tower, with aeronautical lights, stands close N of the summit, 8.5 miles NW of Simpnasklubb Light.

In contrast to this part of the coast, Vaddo is quite rocky, except for a moderately steep-to 3.5 mile stretch extending S of Grisslehamn. In the vicinity of Grisslehamn, a number of houses and other buildings are clearly visible from seaward on the E and SE side of the town.

The Vaddo Kanal, 12 miles long, connects Stockholm Skargard to Oregrunds Skargard. It leads along the W side of Vaddo Island and has a least depth of 2m. Several overhead cables and bridges span the fairway of this canal.

Caution.—A defensive minefield area, through which surface navigation is permitted, lies between Arholma and Bjorko. Anchoring and fishing are prohibited in the fairway within this area. Vessels should avoid transiting the area during thunderstorm activity.

An area in which anchoring, diving, and fishing are prohibited lies centered 13.5 miles ESE of Simpnasklubb Light and may best be seen on the chart. A wreck with unexploded ammunition lies in this area.

Several submarine cables, which may best be seen on the chart, extend seaward from the E sides of Bjorko and Vaddo.

5.3 Grisslehamn (60°06'N., 18°49'E.) ([World Port Index No. 25440](#)) is situated on the narrow isthmus connecting the N end of Vaddo with the peninsula of Byholma. This small port consists of two natural harbors, one on each side of the isthmus. The harbor on the W side is only used by small craft. The harbor on the E side is used by automobile ferries and fishing vessels.

Winds—Weather.—The easternmost harbor is open to winds between the E and W.

Ice.—The port is normally closed by ice from early January to early March.

Depths—Limitations.—The easternmost harbor is entered through a channel, which is authorized for vessels with drafts up to 6m. Local knowledge is advised.

An automobile ferry berth, 98m long, is situated at the N side of the harbor and has a depth of 5.5m alongside. A lay-by quay, 160m long, is situated next to the ferry berth and has a depth of 6m alongside. The inner part of the harbor has depths of 2 to 4.5m alongside and provides piers for small craft and fishing vessels.

Aspect.—Loskaret, a barren and rocky islet, lies off the N entrance point of the easternmost harbor and is prominent.

A conspicuous radio mast stands, at an elevation of 140m, about 0.5 mile S of the easternmost harbor.

A lighted range indicates the approach channel, but the posts are unmarked and are reported to be difficult to make out by day.

Regulations.—A maximum speed of 5 knots is enforced in the vicinity of the harbor.

Anchorage.—Vessels with local knowledge can anchor, in depths of 8 to 9m, sand and clay, W of Loskaret, but vessels must be ready to put to sea if the wind shifts to between E and S.

5.4 A chain of islands, of which the largest are Singo (60°11'N., 18°46'E.) and Graso (60°24'N., 18°27'E.), extends 28 miles in a NNW direction from the N end of Vaddo. Oregrunds Skargard and Oregrundsgrepen lie between these islands and the mainland to the W. Several small harbors are situated along the shores of these two areas of water.

Svartklubben Light (60°11'N., 18°50'E.), equipped with a racon, is shown from a prominent floodlit tower, 12m high, standing on a skerry, 7m high, lying close off the wooded island of Singo.

Stora Laget, a group of small islets, lies 2 miles N of Svartklubben Light. A racon is situated at this group.

From seaward of Svartklubben Light, an aeronautical light shown at an elevation of 375m at Palsmoraasen (60°16'N., 18°05'E.) may be seen.

Oregrunds Skargard (60°16'N., 18°36'E.), consisting of the waters lying SE of Oregrund (60°20'N., 18°27'E.), is enclosed on the E side by Singo and other off-lying islands and on the W side by the mainland. The waters lying NW of Oregrund are known as Oregrundsgrepen.

The main entrance leading from seaward into Oregrunds Skargard is through Jossans Inlopp, situated about 2 miles NE of Svartklubben Light. This channel is authorized for drafts up to 10.4m as far as Vassaro (60°15'N., 18°42'E.). The fairway then continues NW to Oregrund and is authorized for drafts up to 6.5m.

The secondary entrance channel leads NW and passes close NE of Svartklubben Light. This channel, which is authorized for drafts up to 7m, continues NW for about 6 miles and then joins the main fairway, close SW of Vassaro.

These entrance routes are well-marked and may best be seen on the chart.

The channels leading through Oregrunds Skargard and Oregrundsgrepen can be used to good advantage, particularly at night and in bad weather, as an alternative to passing through Sodra Kvarken. Good anchorage may be obtained in several places along this route; however, local knowledge or the services of a pilot is necessary (see [paragraph 5.1](#)).

Singofjarden is the expanse of water lying W of Singo and Fogdo; extending from it are Raggarofjarden, Galtfjarden, and Herrang. A route, authorized for drafts up to 8.5m, leads in a S direction from SW of Vassaro into Singofjarden.

Caution.—An area, which has not been fully surveyed, extends up to 7 miles E of Graso (60°24'N., 18°27'E.) and may best be seen on the chart.

5.5 Hallstavik (60°03'N., 18°35'E.) ([World Port Index No. 25460](#)) is situated at the head of the Edeboviken, a narrow inlet leading S from Singofjarden. This small port, which is privately owned, exports paper and imports oil, sulphate, and wood chips.

Ice.—The harbor is normally obstructed by ice from early January to the end of March, but is kept open by an icebreaker.

Depths—Limitations.—The main entrance channel is authorized for drafts up to 6.5m. Overhead cables, with a vertical clearance of 40m, span the entrance channel and the S part of the harbor.

The paper factory quay, at the E side of the harbor, is 310m long and has depths of 7 to 7.5m alongside. It can be used to discharge oil. It is reported that pontoons are situated between the side of the vessel and the quay for mooring purposes.

The paper warehouse quay, at the SW side of the harbor, forms a berth, 160m long, with two breasting dolphins, and has a depth of 7m alongside. A ro-ro ramp, with a depth of 7.5m alongside, is located inside the dolphins.

Clay Pier, 72m long, projects into the harbor and provides a ro-ro berth with a depth of 7m alongside.

Vessels up to 185m in length, 28m beam, and 6.5m draft can be accommodated in the harbor.

Regulations.—Tankers may enter and leave only during daylight. Vessels over 150m in length and 20m beam may only enter by daylight.

Speed restrictions are in force within the entrance channel.

Caution.—Numerous log rafts may be secured along the sides of the approach channel.

5.6 Hargshamn (60°11'N., 18°27'E.) ([World Port Index No. 25480](#)), a small harbor, lies at the W side of Galtfjarden and exports ore products and timber.

Ice.—The harbor is normally obstructed by ice from early January to the end of March, but is kept open by an icebreaker.

Depths—Limitations.—The main entrance channel is authorized for drafts up to 8.5m. The harbor consists of a series of berths situated along the SW shore of the mainland opposite the island of Glotan.

Ore Quay is 95m long and has depths of 11.9 to 12.5m alongside. A ro-ro berth is situated close E of the root of the this quay and has a depth of 7.1m alongside. The loading conveyor travels along most of the length of the ore quay and only the largest vessels have to shift during loading.

New Quay, 40m long, is located close WNW of Ore Quay and has a depth of 8m alongside. A ro-ro jetty, 45m long, is located at the E end of New Quay and has a depth of 9.4m alongside.

Vessels up to 185m in length, 26m beam, and 8.5m draft can be accommodated in the harbor.

Anchorage.—Vessels may anchor, in depths of 6.5 to 12m, loose mud, within the basin lying SW of Glotan.

5.7 Oregrund (60°20'N., 18°27'E.) ([World Port Index No. 25510](#)), a small harbor, is situated at the head of Oregrundsgrepen and protected by a breakwater, 150m long. It is usually closed by ice from January until the beginning of April.

The belfry of the church in the town is prominent and an old lightship stands as a monument on the E side of the entrance.

The harbor is used by fishing vessels, small craft, yachts, and an automobile ferry. The main quay, 100m long, is situated at the W side of the harbor basin and has depths of 2.5 to 4m alongside. The roadstead has depths of 14 to 20m, stiff mud, but is seldom used by vessels because the anchorage is exposed to N winds.

Kallero (60°21'N., 18°16'E.), a small harbor, is situated about 2.5 miles inside Kallrigafjarden, which is entered 4.5 miles WNW of Oregrund. The entrance channel is authorized for drafts up to 4.3m. The main quay is 110m long and has depths of 3.5 to 5m alongside. Vessels with local knowledge can anchor, in a depth of 5m, clay and mud, off the harbor.

Forsmark (60°24'N., 18°13'E.), a small private harbor, is situated 8 miles NW of Oregrund and serves a power station. It is formed by a breakwater and a pier. The entrance channel is authorized for drafts up to 5.5m. There is a quay, 95m long, and a ro-ro ramp, with three breasting dolphins. Both berths have depths of 6m alongside.

Caution.—A restricted area extends SE from the harbor at Fosmark toward the entrance fairway. Entry into this area is prohibited without permission from the authorities.

Sodra Kvarken

5.8 Sodra Kvarken (60°18'N., 19°00'E.), the main off-shore passage, lies between the E edge of the dangers extending N for 20 miles from Svartklubben Light and those dangers extending W from the Aland Islands (Ahvenanmaa).

The main channel, through which the route passes, is swept to a least depth of 18.2m. The approaches on the N and S sides of this channel have depths of over 100m.

Aside from occasional drift ice, the passage is normally free from ice until the late winter freeze in March.

5.9 East side.—**Solovjeva** (60°11'N., 19°11'E.), marked by a lighted beacon, lies 3 miles WNW of Gisslan Light (60°10'N., 19°18'E.) (see [paragraph 4.10](#)) It is the southernmost danger of a line of detached rocks that extends about 7 miles SSE from Market, on the E side of the passage.

Brentonsgrund, with a depth of 4.9m; Sodra Sankan, with a depth of 0.6m; Stor Sankan, awash; and Norra Sankan, with a depth of 1.2m, lie, respectively, 2.3, 3.5, 5.2, and 6.7 miles N of Solojeva.

Market (60°18'N., 19°08'E.), an islet through which the border between Sweden and Finland runs, lies about 7 miles N of Solojeva. A main light is shown from a tower, 14m high, at the corner of a prominent white house standing on this islet.



Market Light

Marketshallar, an above-water rock, lies about 0.7 mile NW of Market Light.

Marketskallen Light (60°19'N., 19°02'E.) is shown from a tower, 17m high with a helicopter platform, situated 3 miles W of Market. A racon is situated at this light.

Sodra Kvarken Light (60°26'N., 19°05'E.) is shown from a prominent structure, 17m high, standing on a shoal about 8 miles N of Market. A racon is situated at this light.

Caution.—Vessels are advised against passing E of Market as the area is not well-marked nor adequately surveyed.

An area dangerous to fishing and anchoring due to bottom mines is formed between Understen and Market; the limits of the area are best seen on the chart.

5.10 West side—Halsaren (60°13.2'N., 18°54.8'E.) is a small pinnacle rock, 6m high, lying 4.8 miles NE of Svartklubben Light. It is dark in color and can be distinguished from a considerable distance, particularly from the N. An isolated shoal patch, with a depth of 9.7m, lies about 0.5 mile NE of this rock.

Travarn, a small rocky shoal, lies about 1 mile N of Halsaren. When there is any sea, the breakers in the vicinity of this shoal are visible from a considerable distance.

Understen Light (60°17'N., 18°55'E.) is situated on a rocky ledge 3.2 miles N of Halsaren. It is shown from a prominent tower, 39m high. A dark round tower stands close W of the light and is conspicuous in contrast to the other buildings on



Understen Light

Nyberget and Oldberggrund, marked by buoys, lie about 1.5 and 2.2 miles NNE of Understen Light.

Oldberggrund Lighted Buoy (60°19'N., 18°59'E.) marks the E side of a shoal area extending NE from Nyberget.

Hoppetsgrund (60°22'N., 18°53'E.), with a depth of 2.3m, is marked on its E side by a buoy. This shoal lies about 5 miles NNW of Understen Light. Baldersgrund, a rock awash, lies 1 mile NNW of Hoppetsgrund.

Grundkallen Light (60°30'N., 18°51'E.) is shown from a prominent tower, 34m high with a helicopter platform, standing 8 miles NW of Sodra Kvarken. A racon is situated at this light.

Grundkallegrund, an extensive bank, extends up to about 5.5 miles S and 3 miles SE of the light. This bank is composed of numerous steep-to and shallow shoals, some awash. It is marked on the E side by buoys. A conspicuous disused light structure is reported to stand near the S end of the bank, about 4 miles SSW of Grundkallen Light.

Giffardsgrund, a group of shoals with a least depth of 1.4m, lies about 4 miles NW of Grundkallen Light and is marked by a buoy.

Caution.—An area, which is incompletely surveyed, lies W of Understen Light and extends up to 7 miles from the E coast of Graso.

Generally, the soundings give very little warning of the close approach to the off-lying shoals which are mostly steep-to.

Directions.—The main offshore route continues in a NW direction up the middle of the Aland Sea, passing NE of Simpnasklubb Light and W of Solovjeva. It then turns N and passes E of Understen Light and between Marketskallen Light and Oldberggrund Lighted Buoy, about 1.2 miles WNW. The route then leads W of Sodra Kvarken Light and NE of Grundkallen Light.

5.11 Argos Grund Light (60°38'N., 18°22'E.) is shown from a prominent structure, 18m high, standing on the N part of a shoal about 16.5 miles NW of Grundkallen Light. A racon is situated at this light.

Orskar Light (60°32'N., 18°23'E.) is shown from a prominent tower, 33m high, standing on the N part of Orskar.

Two prominent radio masts stand at an elevation of 120m about 2 miles SSE of the light, on the island of Graso.

A prominent lookout tower, 15m high, is situated at the village of Norrboda, close SSW of the radio masts.

Bjorn Light (60°38'N., 17°59'E.) is shown from a tower, 25m high, standing on an islet lying 2.3 miles N of the

mainland. This islet lies 11 miles W of Argos Light at the outer edge of the numerous rocks and shoals fronting the mainland in this vicinity. A number of conspicuous buildings are situated on the islet.

The main approach into Oregrundsgrepen, which is encumbered by numerous shoals on both sides of the passage, lies between Bjorn Light and Argos Light. The fairway channel continues SE to Oregrund and is authorized for drafts up to 6.5m.

For details of the waters lying W and N of Bjorn Light, see [paragraph 6.2](#).